

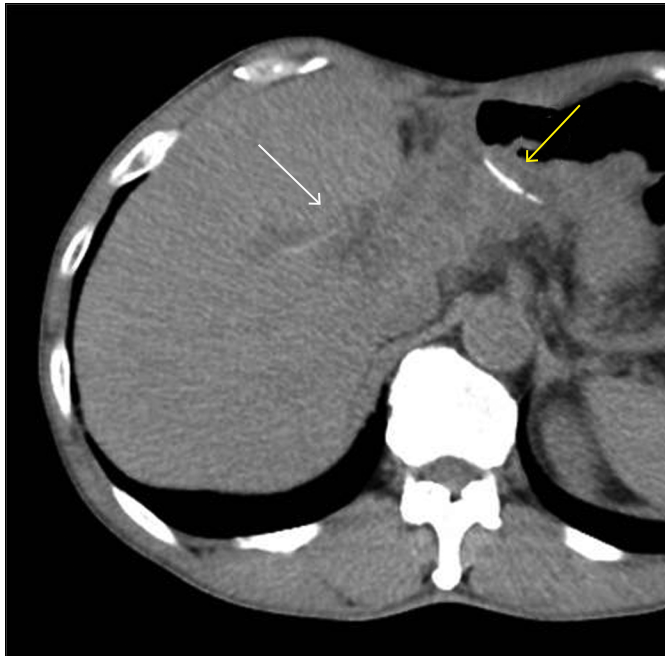
# Fishbone Migration in the Intrahepatic Bile Duct after Pancreaticoduodenectomy

Yoichi Koga, MD, Akihiko Soyama, MD, PhD, FACS, Amane Kitasato, MD, PhD, Mitsuhsa Takatsuki, MD, PhD, and Susumu Eguchi, MD, PhD, FACS

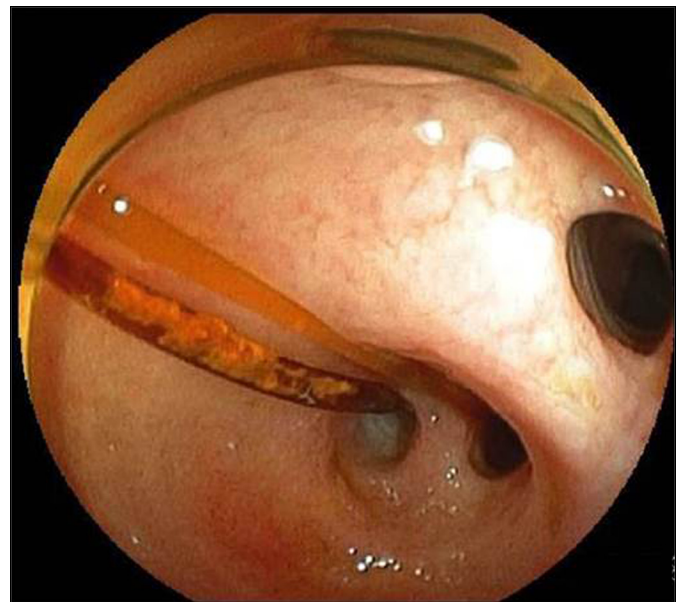
Department of Surgery, Nagasaki University Graduate School of Biomedical Sciences, Nagasaki, Japan

## CASE REPORT

A 71-year-old man was admitted to our hospital with a fever over 39°C. He had undergone pancreaticoduodenectomy for cholangiocarcinoma and suffered from recurrent cholangitis for a year after the surgery. Although laboratory data showed an elevated white blood cell count (13,100/ $\mu$ L) and C-reactive protein (6.53 mg/dL), no marked elevation was noted in the hepatobiliary enzymes. However, abdominal magnetic resonance imaging revealed the dilatation of the intrahepatic bile ducts and a high-intensity area on T2- and diffusion-weighted imaging in segments 4/8. A liver abscess was suspected. Abdominal computed tomography showed a linear opacity with hyperattenuation in the intrahepatic bile duct and a stent in the pancreatic duct that had been inserted during pancreaticoduodenectomy (Figure 1). Subsequent double-balloon endoscopy revealed foreign bodies in the orifice of the right hepatic duct (Figure 2). Those foreign bodies were found to be fish bones (Figure 3). The fish bones were removed from the bile duct, and the patient's symptoms resolved. We used a modified Child's method for reconstruction. Although the migration of fish bones into the common bile duct as a cause of



**Figure 1.** Abdominal computed tomography showing linear opacity with hyperattenuation in the intrahepatic bile duct (white arrow) and a stent in the pancreatic duct that had been inserted during the surgery (yellow arrow).



**Figure 2.** Double-balloon endoscopy revealing foreign bodies in the orifice of the right hepatic duct.

ACG Case Rep J 2018;5:e18. doi:10.14309/crj.2018.18. Published online: February 28, 2018.

**Correspondence:** Susumu Eguchi, Department of Surgery, Nagasaki University Graduate School of Biomedical Sciences, 1-7-1 Sakamoto, Nagasaki 852-8501, Japan (sueguchi@nagasaki-u.ac.jp).



**Copyright:** © 2018 Koga et al. This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0>.



**Figure 3.** Fish bones after removal.

biliary stones has been sporadically reported, the migration of a fish bone into the intrahepatic bile duct after pancreaticoduodenectomy has never been reported.<sup>1,2</sup> Physicians should recognize that fish bones can act as a foreign body and cause cholangitis after biliary-intestinal anastomosis, especially in areas with high fish consumption.

## DISCLOSURES

Author contributions: All authors wrote and edited the manuscript. S. Eguchi is the article guarantor.

Financial disclosure: None to report.

Informed consent was obtained for this case report.

Received October 13, 2017; Accepted January 4, 2018

## REFERENCES

1. Patel VM, Barai RS, Thomas PR. A wandering fish bone. *Postgrad Med J*. 2006;82:e9.
2. Kaji H, Asano N, Tamura H, Yuh I. Common bile duct stone caused by a fish bone: Report of a case. *Surg Today*. 2004;34:268-71.